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Mauelshagen, Franz

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Flood Disasters and Political Culture at the German North Sea Coast: A Long-term Historical Perspective

Franz Mauelshagen [*]

Abstract: *»Sturmfluten und politische Kultur an der deutschen Nordseeküste in historischer Perspektive«*. Taking the case of the German North Sea coast, this paper seeks to investigate the impacts of disaster on political culture in a long-term perspective. German North Sea regions offer a good example for strategies of coping that became 'cultural' through permanency. The German North Sea coast will be described as a "region of risk" (Kenneth Hewitt) that has had its own risk technology for almost a millennium. Dikes and drainage systems have shaped a cultural landscape of protection against the dangers of the sea. It is a landscape of coping. By imposing demands of upkeep and reconstruction dikes have strongly influenced the daily life and political culture of North Sea communities. Dike law will be interpreted as the most obvious expression of a "hydrographic society" (Simon Schama) that has emerged from cooperation, communal organization, and conflict.

Natural hazards, disaster and their impacts on societies is a field of research that has been reshaped over the last decade (GROH et al. 2003, p. 13-4; KEMPE/ ROHR 2003, p. 123; ALEXANDER 1997). Today, disasters are no longer regarded as purely physical or 'natural' incidents, even when clearly triggered by natural extreme events (earthquakes, tsunamis, windstorms or high tides etc.), and they are no longer regarded as occurrences to which there is but

[*] Address all communications to: Franz Mauelshagen, Historisches Seminar, Karl Schmid-Str. 4, 8006 Zürich, Switzerland; e-mail: F.Mauelshagen@access.unizh.ch.
This paper is an abbreviated version of Mauelshagen 2008, complemented by some reflections in the last section, which are not contained in the longer version. I presented the paper at the 20th International Congress of Historical Sciences (CISH) in Sydney in 2005 in a panel on Natural Disasters and How They Have Been Dealt With, chaired by Christian Pfister (Berne). Other contributors were Greg Bankoff (Hull), Georgina Endfield (Nottingham) and Andrea Janku (London). Dieter Schott (Darmstadt) made a number of useful suggestions in his comments. A new introduction has been added for publication in the present volume of HSR.

a technological response. In recent debates sociologists, anthropologists, geographers, and historians have defined disasters as systemic events, catalysts of social development (KREPS 1998), initiators of collective learning processes (POLIWODA 2007), breakdown of cultural protection (CARR 1932; DOMBROWSKY 1998), or as falsification of human knowledge and technology that seeks control over the natural environmental (VOSS 2006, p. 16-7). Despite such differences in detail research in what has become an interdisciplinary field of investigation agree in choosing holistic concepts to start from. In this, the distinction between nature and culture (or alternatively the social) plays a central part. "Disasters occur at the intersection of nature and culture and illustrate, often dramatically, the mutuality of each in the constitution of the other." (OLIVER-SMITH 2002, p. 24) Alluding to the astrological etymology of the term 'disaster' (also French *désastre* or Italian *disastro,* meaning "bad star") the American historian Alan Taylor speaks of "conjunctions between the social and the natural" (TAYLOR 1999, p. 147). The awareness about the "multidimensionality of disaster" (OLIVER-SMITH 2002, p. 25) relocates disastrous events within their social and cultural contexts. They are embedded into the economic and socio-cultural order as well as into the political structures of the societies in which they occur. Only recently historians have picked up the concept of *vulnerability* to describe and assess the relevant factors involved.

While the social and cultural 'construction' of disaster has been given much attention over the last years, the impact of disasters on the construction of societies and cultures has rarely been adequately described (BANKOFF 2008). Greg Bankoffs book on the Philippines is one among few exceptions (BANKOFF 2003; TORRENCE/ GRATTAN 2002). In Europe most historical research has been dedicated to single outstanding events like the Villach earthquake in 1348 (BORST 1981; ROHR 2003) or the Lisbon earthquake in 1755 (BREIDERT 1994; LÖFFLER 1999). Many case studies have applied approaches adopted from 'new cultural history' or historical anthropology that understand disaster as a mirror of culture rather than an agent of cultural change (JAKUBOWSKI-TIESSEN/ LEHMANN 2003, p. 10; ALLEMEYER 2006). Yet, organizational achievements like disaster management and prevention, civil protection, or the emergence of insurance companies are often culturally specific, and they may be regarded as sustainable results of historical experience. Such experience is—and was—never gained from strictly single events but from a series of occurrences discerned as similar or repetitive. All strategies of coping—as soon, at least, as they reach the level of future prevention—are based on the expectation of repetition drawn from the experience of repeated disasters. Indeed, 'repetition' is likely to become a key term of historical research on disasters. It is the link between the past and the future, or—to be more precise—between past experiences and models of the future in society.

Prevention and management, like any kind of precaution, are built on the future of the past. This is why history matters.

From these preceding remarks the modelling of the following case study may be understood. Raising the question of sustainable impacts of disaster on culture, it appears plausible to apply a long-term approach that is focused on "regions of risk" (HEWITT 1997) characterised by frequently recurring natural hazards of similar type. The North Sea coast has been such a region for a long time. Within the framework of this paper I will focus on the German parts of this landscape and highlight the relationship between disastrous floods and political culture. Dike law and the distribution of dike property will provide a framework to sketch political order and assess the importance of disaster for change. I will start with a historical survey of major storm tides before dealing with dike law and discussing the process of centralization.

A Survey of North Sea Floods

For centuries, the North Sea coast has been a region in which storm tides and the need for protection have shaped the lives of communities. "There has hardly been a generation that did not experience heavy storm tides with dike breaches and flooding." (JAKUBOWSKI-TIESSEN 2003, p. 101 [translation by the author]; cf. WOEBCKEN 1924; DE KRAKER 2000) The flood of 1362 has to be mentioned here, known in the history books as "Marcellus flood" or "grote Mandränke" (the "great man's drowning"), that caused many casualties and vast losses in land. Ancient chronicles give the number of 100,000 victims which is definitely too high (JANKRIFT 2003, p. 43-45). The most severe disasters of later centuries were caused by the "Allhallows Flood" in 1570, "St Burchard's Flood" on 11 October 1634—also known as "Nordstrand Flood" and "Second Man's Drowning" (PANTEN et al. 1984; HINRICHS et al. 1985)—, the "Christmas Flood" of 1717 (JAKUBOWSKI-TIESSEN 1992), the floods on 3/4 February 1825, on 1 February 1953 and on 16/17 February 1962 in the twentieth century (SCHOTT 2002). Less disastrous storm tides, like those in 1643/44 and 1675, also induced dike breaches, cost human beings' and animals' lives, and ravaged farms. Water reached the highest peak levels probably in 1570—a flood that historians have been paying comparatively sparse attention to.

Vast losses of land were characteristic of fourteenth century flood disasters, which is less true for the fifteenth and sixteenth centuries. It seems likely that the coincidence of the 1362 flood with the first series of plague epidemics in Europe (since 1348) caused a lack of manpower that would have been needed for repair work and the construction of new protections. Damage and losses of dikes lead the vulnerability of North Sea coast communities to increase for decades, as is at least plausible from a series of floods that followed in the

1380s and 1390s (1380, 1387, 1381 and 1395). Chronicles reported these storms to have caused great damage despite the fact that all of them had occurred in May or June. Under normal conditions, harmful storm tides can be expected to happen during the autumn and winter months (October and February) almost without exception. It seems probable that in the aftermath of 1362 even weaker storms lead to corrosive flooding. In the fifteenth century a new period of dike construction and land reclamation was entered (PETERSEN/ ROHDE 1991, p. 44f.).

In the second half of the seventeenth century, a situation similar to that after 1362 occurred. Heavy floods in 1625 and 1634 had weakened the shore line when another series of painful storm tides followed (1639, 1642 and 1643/44). All these floods happened to take place during the Thirty Years War, probably the *one* catastrophe in pre-twentieth century German history which had the most long-lasting impacts on population, economy, cultural memory, and the political structures of Germany before the two world wars of the twentieth century. When northern Germany had become the main theatre of war in the 1620s, the population endured quartering from imperial and Danish troops and carried the burden of contributions that was to be prolonged by the Swedes until the end of and even beyond the war. Contributions constituted the financial basis of warfare and were paid prevailingly in the 'currency' of natural produce and lodging, when troops befell the region, thus increasing the vulnerability of North Sea communities to disease and the forces of nature. After the flood of 1643 people from the region of Kehdingen petitioned to be relieved from the war taxes, that contributions amounted to be (FISCHER 2003, p. 72). Salted grounds were expected to threaten winter and summer seeds for years, leaving no surplus. The strains of war also had their effects on dike renewal. The logic of damage leading to further damage was on its fatal course.

"Hydrographic Society" and Dike Law

Natural hazard has shaped the life of individuals and communities at the North Sea. Relating to the Netherlands, Simon Schama has coined the term of a "hydrographic society" (SCHAMA 1987), which is also suitable to describe living conditions at the German North Sea coast (FISCHER 2003, p. 6). By definition, hydrographic societies are shaped by a permanent demand to cope with the element of water. North Sea culture relies on dikes and drainage systems—visible marks in a cultural landscape for which protection against flooding has always been the prerequisite for settlement, cultivation, and land reclamation. At the same time the significance of dike and sluice construction reaches beyond purely technical effort into the realms of politics and the social. In the course of history they have shaped a basis for social order and cohabitation.

For a long time, North Sea societies have been "risk societies"—a term that should not be reserved to characterize modernity (BECK 1992). The settlers of late Antiquity and the Middle Ages as well as later immigrants into the region developed strategies of coping with, rather than avoiding, the dangers of the North Sea. They were attracted by a bunch of incentives that were expected to pay out for inconveniences, most basically: land and freedom. The soils consisted of geologically young and unconsumed sea sediments and promised good yields for cultivation. Beside traditional agriculture and cattle breeding, specific economic branches like exploitation of salt peat stacking grounds developed. Political advantages must be added, as the influence of sovereigns (the leading princes on higher regional levels) and the church was comparatively weak. Self-government was prevalent in dike regions. Particularly after damaging floods the central powers were interested in creating additional incidents by offering privileges to new settlers or entrepreneurs (KÜHN 1992, p. 26).

Long before the dawn of modernity, the risk culture at the North Sea had its own technology. According to archaeological research the oldest dikes can be dated as far back as to the eleventh century (KÜHN 1992). The history of dike construction, which has been reconstructed in vast detail, but can only be roughly outlined here, has *two closely connected aspects*, a *technical* and a *social* one.

Storm tides that destroyed dike lines and, time and again, forced people to give up new ground and settlements have played a catalyst function in technological development. Like the reconstruction of cities after big fires, the renewal of dike lines posed the challenge of planning appropriate to improve protection compared with the state before disaster. Still recently the development of dike construction has been depicted as a history of progress, characterized by increasing technical skills and scientific knowledge in a process of successful and progressive learning (FISCHER 2003, p. 45). Dikes were constantly raised, protection constantly improved. Regressive numbers of victims since the nineteenth century strengthen such views.

Nevertheless, like in so many other fields within the history of science and technology, the story of linear progress must be put into perspective. The opinion that medieval dikes offered little safety because their seaside slopes were too steep has been refuted by archaeological discoveries and, thus, proved to have been a myth invented by eighteenth-century treatises on dike technology (KÜHN 1992). More important than corrections of details is a new understanding of what concretely is behind processes that are (too) often described as purely technical or scientific. Nowadays, sociologists and social historians consider processes of social differentiation in the course of which groups of technical and scientific experts emerged—not mainly as a result of developing technical and scientific knowledge, but of complex power struggles within society. From a certain point in history onwards the knowledge and skills of dike construction as well as the groups that took possession of them lost touch

with—or, to say the least, were disembedded from—the community of North Sea denizens.

Undoubtedly, technical innovation has contributed considerably to the emergence of expert groups. In the literature on dike construction one such invention is frequently mentioned (e.g. FISCHER 2003, p. 51): In 1610 the Dutch engineer Johann Claussen Rollwagen came first to make use of wheelbarrows instead of much more expensive horses when working on dikes in Eiderstedt. This proved a major step towards wage work in the field of dike construction. By cheapening and accelerating working processes, entrepreneurs like Rollwagen strengthened their position towards land owners, who often claimed the rights of dike building to be theirs alone. Employed by central political powers they worked as tools to grab influence, especially when severe floods had weakened local communities.

I am already involved with the social aspect of dike construction that will further illuminate these contexts. Installing dikes that enclose wide coastal districts requires proper organization and material cost. They can only offer protection if the dike lines are well coordinated. Leading beyond technical skills, planning and cooperation are essential and must be performed in community. Single peasants, or landowners, and parishes organized themselves in higher social amalgamations. In Northern Frisia such amalgamations came into being as early as the tenth century (PETERSEN/ ROHDE 1991, p. 147). They can be described as risk communities that made protection become a matter of self-government and, consequentially, of 'law and order'. The political culture in German North Sea regions, as well as law, was shaped by natural hazard.

Dike law, as indeed any lawful regulations that were invented for the purpose of coastal protection, has put the basic rules of a risk society into words. The need for regulation refers to conflict rather than harmonious cohabitation (ALLEMEYER 2006, part II). Many rules became 'cultural' even in a sense that they found their way into everyday life and people's conscience. Law may shape identity and, therefore, be read as an expression of cultural identity. But it is certainly not the result of a community whose members unconditionally subordinated private to common interests. The definition of what interests are regarded as common and have to be pushed through against private profit is, by itself, a complex historical process of negotiation within social communities and between them.

Dike law was passed on orally almost throughout the Middle Ages. First signs of codification can be discovered in Eike von Repgow's *Sachsenspiegel* (around 1230). With reference to river dikes it mentions the rule that any villager that proved unable to contribute to repairing broken dikes would lose his land (KÜHN 1992, p. 83). "No land without dike, and no dike without land" was customary law. Unwritten for centuries, it was still effective when dike law became codified. It was also contained in the so called "spade land law" (*Spadelandrecht*) or "law of the spade" (*Recht des Spaten*) according to which

the ground that had been "gained with the spade" had to be defended by dikes built with spades. In dike law the spade became a symbol for the connection between property and dike construction. Those landowners that proved unable or unwilling to fulfil the demands for safety imposed by the community would lose their land. In such cases a supervisor, called *Deichgräfe*, that was to be appointed by parishes or dike associations, would stamp a spade into the dike section of the respective landowner. At some places landowners could also resign by doing the same thing, a common practice codified in the "Royal Dike Orders" of 1634: anyone to pull out the spade again would claim to take the land (GIERKE 1901/1917, vol. 1, p. 243).

Codification of dike law began in the fifteenth century. The so called *Siebenhardenbeliebung* of 1426 is the earliest written record of dike law that has come down to us (KÜHN 1992, p. 83; PAPPENHEIM 1926). It included the appointment of dike judges and regulations on "dike peace" (*Deichfrieden*) that excluded feuds for times when dikes had to be worked on. Spade land law became codified during the middle of the sixteenth century. Only few decades later some regulations introduced modifications or alternatives to a complete loss of land: landowners that were unable to fulfil their duties wouldn't immediately lose their property but had to pay a fine (e.g. "Eiderstedter Dike Orders" of 1595, cf. GIERKE 1901/1917 vol. 1, p. 45) from which dike construction entrepreneurs were paid to carry out the necessary repair work.

It would be worth comparing the German North Sea Coast region with the hydrographic culture of the Netherlands. As Simon Schama has shown dike culture and the wars of independence from Spanish dominance have developed simultaneously during the late sixteenth and seventeenth centuries shaping what has been called the Dutch national identity. In this respect, the situation in Schleswig-Holstein and Lower Saxony was quite different. Though 'dike culture' has shaped regional identity in these parts of Germany, nothing like a German identity emerged from it. The religious background of conflict in the Thirty Years War makes it even impossible to say that Danish or Swedish governments were experienced as occupants—like the Spanish were in the Netherlands—so that people sought to get rid of them as soon as possible. Regional identity was defended against any influence taken by central powers, whether they were Danish, Swedish, Prussian or 'German'.

Disaster and the Emergence of Central Political Powers

In the early modern period, dike law was announced from the pulpit to gain publicity. Thus, it takes the same rank as city law did in the cities. This is confirmed by the fact that dike officials would also hold privileges of lower jurisdiction, as it reveals the comprehensive importance of dike law in the hydrographic society of the North Sea coast. Furthermore, it was consequential as

dike law included regulations on the punishment of dike offenders that could even be sentenced to death. The development of dike law also reflects changes in supervision that can be read as changes of balance between regional self-administration and central powers that tried to increase their influence. Codification itself can be understood as a step towards centralization. First written evidence for the office of a dike supervisor (*Deichgräfe*) can be found in 1438 (*Spadelandbrief* for the Wilstermarsch). Peasants would elect members of a jury to participate in dike examinations that were to be carried out on fixed dates. They also had responsibilities towards the sovereigns of the country. Around 1600 the office of *Deichgräfe* had become common and increasingly occupied by supraregional officials. The number of supervisors with a professional background in dike construction increased. In 1609, for example, the earlier mentioned Johann Claussen Rollwagen was appointed "dike supervisor general (*Generaldeichgraf*) of northern coastal landscapes" by the duke of Gottorf, Johann Adolf (KÜHN 1992, p. 90). Processes of centralization can also be observed under Swedish and Danish governments in the seventeenth and early eighteenth centuries in Frisia and Lower Saxony. The Swedes introduced the first "General Dike Orders" in 1692 after decades of gaining influence on local self-administration. In some regions, such as Kehdingen, resistance against centralization proved to be quite stubborn. The Swedes succeeded not least because a series of floods in the 1650s and 1660s weakened local positions considerably (FISCHER 2003, p. 78-82). Again, in the late eighteenth century, severe storm tides inspired centralization and reform, demanded by people such as Johann Nicolaus Tetens (1736/38-1807) who was a philosopher and administrative official in Frisia under Danish government (PETERSEN/ ROHDE 1991, p. 149). In 1800 governmental dike inspectors entered the stage, and in 1803 the "General Dike Regulations" (*Allgemeines Deich=Reglemet*) were published, later taken over by the Prussians who introduced the "Prussian Law on Dikes in Schleswig-Holstein" in 1848.

Dike properties, at large extent, still remained in private hands, though over the centuries central powers had become land as well as dike owners in some parts of the region. Private owners strove to strengthen their position by getting organized in dike associations that would help them keep up with the increasing financial demands imposed by the technical progress of dike construction. In the 1870s numerous new dike organizations were founded, once again triggered of by a storm tide in 1872 (PETERSEN/ ROHDE 1991, p. 150). Nevertheless, the modern nation-state was about to take over. Between 1900 and 1940 the so called *Anwachsrecht* (the right to possess newly gained land) became nationalized almost everywhere.

There is an obvious connection between nationalization of dike properties and the technical development of dike construction and maintenance. With heavy equipment technical possibilities improved. Today, dikes are constructed up to 9 meters high. The financial demands of modernized dike construction in

the nineteenth and twentieth centuries increasingly exceeded the capacities of dike associations that used to own dike properties well into the 1960s. After the flood of 1962 no less than a total of 99.5 kilometres of protecting dikes and high tide walls were newly built or extended. Costs were borne by the city of Hamburg and the central government of West Germany. The dike associations that would keep some responsibilities for the maintenance of dikes until 1977 were unable to pay the expenses. The situation in Lower Saxony and Schleswig-Holstein was similar. However, in 1962 the nationalization of dike properties had been a decision of central and federal legislators taken some years before the flood occurred.

Nevertheless, there is considerable evidence that, over the centuries, storm tides have influenced processes such as technical development, social differentiation, professionalization and nationalization in the German North Sea regions. All these processes seem to have been intermingled: New technical equipment strengthened early entrepreneurship of professional dike constructors; central powers could use these expert groups as tools when struggling to increase their political influence against local forces etc. While in the Middle Ages storm tides furthered private initiative to take the risk of living in a region of natural hazard, after 1500 they seem to have offered windows of opportunity for new expert groups, entrepreneurship and central powers to gain influence.

Up to this point, the story of nationalized dike systems seems to be one of success in terms of efficient protection. Yet, the last fifty years must be put into perspective. The post-World War II-era was a period of massive economic growth and prosperity in West Germany, which enabled the state to enlarge state property and investment based on public revenue. At the same time, climatic conditions in Central Europe were favourable for most part of the second half of the twentieth century. Over the last two decades, both these trends have changed. The German welfare state has been manoeuvred into structural economic stagnation by political mismanagement. Enormous amounts of public investment capacities are spent for unemployment benefits and public debt interest each year. It may well be that budgetary gaps on all levels (from the communes up to the federal state) will lead to failure on various fields that previously have been defined as state responsibilities. At one point, this may also affect the modernization of dike systems and, thus, increase the vulnerability of the North Sea Coast. The river dike system has already revealed its weaknesses during an increasing number of damaging floods in the late 1990s and the early 2000s (e.g. Odra 1997, Elbe 2002). As these events and recent storms show, climatic conditions have been less favourable over the last two decades. For dikes at the North Sea, the melting of polar ice through global warming, which may raise the sea level considerably, is the greatest threat. It is, therefore, too bold to conclude that the modern nation state has proved a more efficient protector of the coast than private property owners. It is obviously dubious to compare fifty (or, at maximum, a hundred) years of relative

success with a thousand years of ups and downs in the struggle for protection. What has definitely changed is the political framework in which the equilibrium between the demand for protection and the minimization in costs for modernization will be negotiated. As the case of New Orleans 2005 has proved, there is no guarantee that a modern democratic civil society will succeed in replacing its outdated dikes in time—before disaster strikes.

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